





+86-0917-3381186

Gaoya Industrial Park, Gaoxin
District, Baoji City, ShaanXi Province
China, 721013





COMPANY INDUSTRY MODULE





Research Topic

Modeling-Template Product of titanium alloys, refractory alloys, medical and aerospace grade materials, nickel-based superalloys, high-performance special materials, etc.

Material Manufacturing

The alloy of tungsten-copper, titanium-tantalum, high-vanadium, niobium-carbon, tungsten-carbon, etc.





Metal forming field

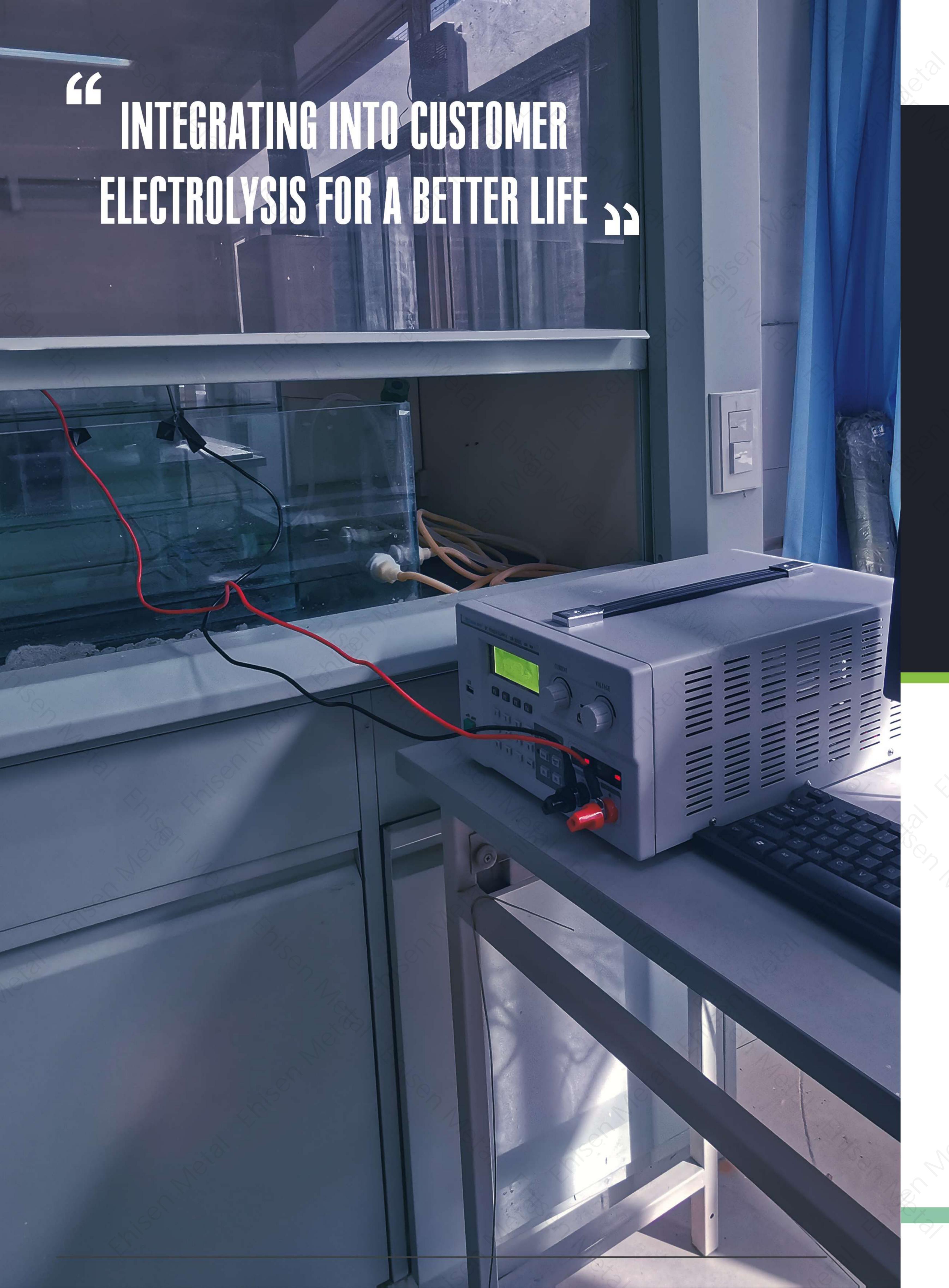
High-end metal materials and processed parts, coated titanium electrode products, SOFC/SOEC module accessories.



Future Perspective

The technology of metal rolling and welding processing, precious metal oxide coating, precision machining, etc.





Main Products

- Modeling-Template Product of high-performance rare metal materials
- Titanium, Nickel, Tungsten and Molybdenum deep processing product
- Noble electrode via advanced manufacturing
- SOFC/SOEC device components
- Aerospace grade high-end titanium material goods

CERTIFICATES OF PRODUCT





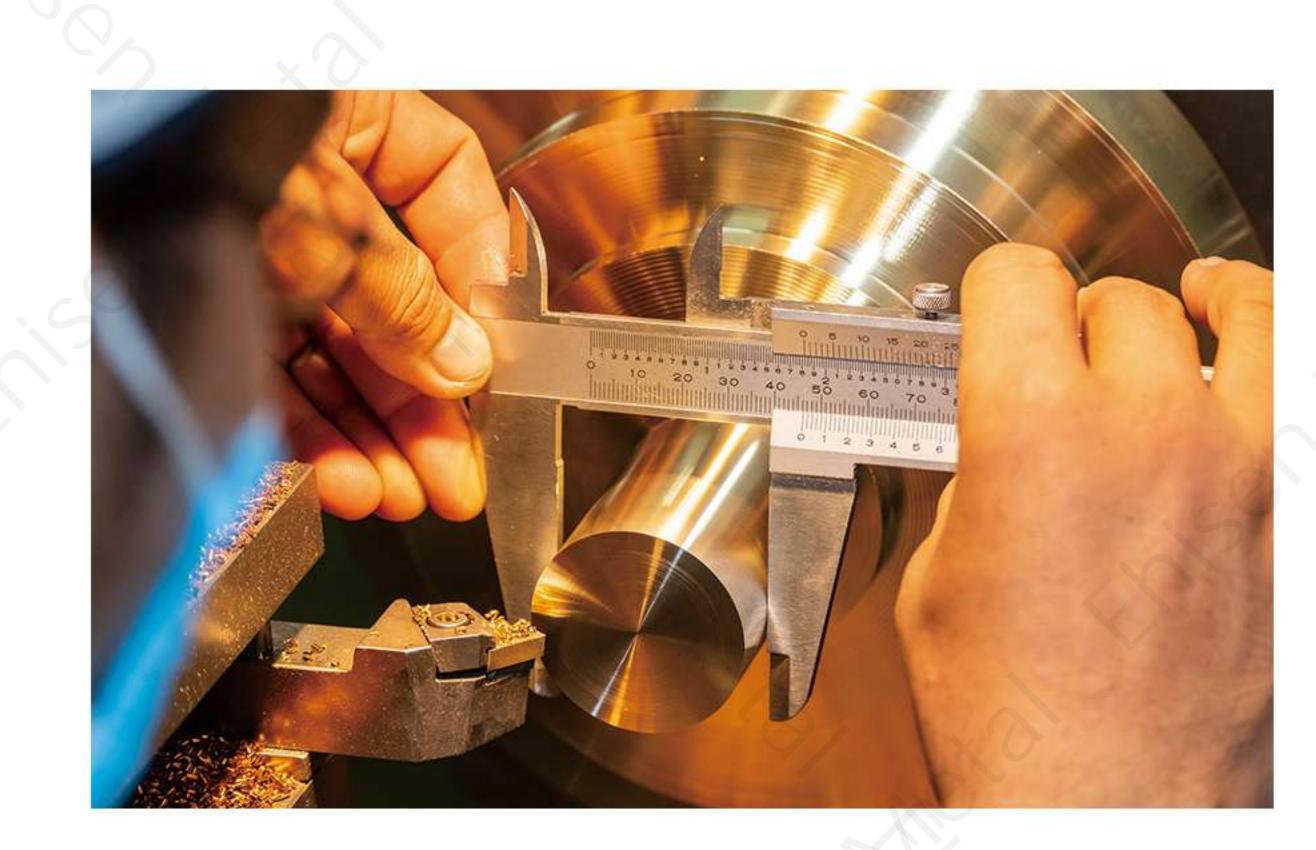
20103

Introducing advanced equipment and measuring devices to improve our processing capacity of metal materials. This allows us to establish a processing center focused on metal materials and be transformed to our product structure towards higher quality, deep-processing products.



20200

In 2020, based on the superb base material production capacity, advanced molding machine processing technology.and various welding technology experience, the industrial module of SOFC/SOEC accessories products is formed.





20190

In 2019, our company set up an R&D lab with Chinese universities and senior technical engineers to develop and test precious metal electrodes and metal oxide. We are continually improving our processing technology and optimizing product costs to achieve mass production of titanium anode products.



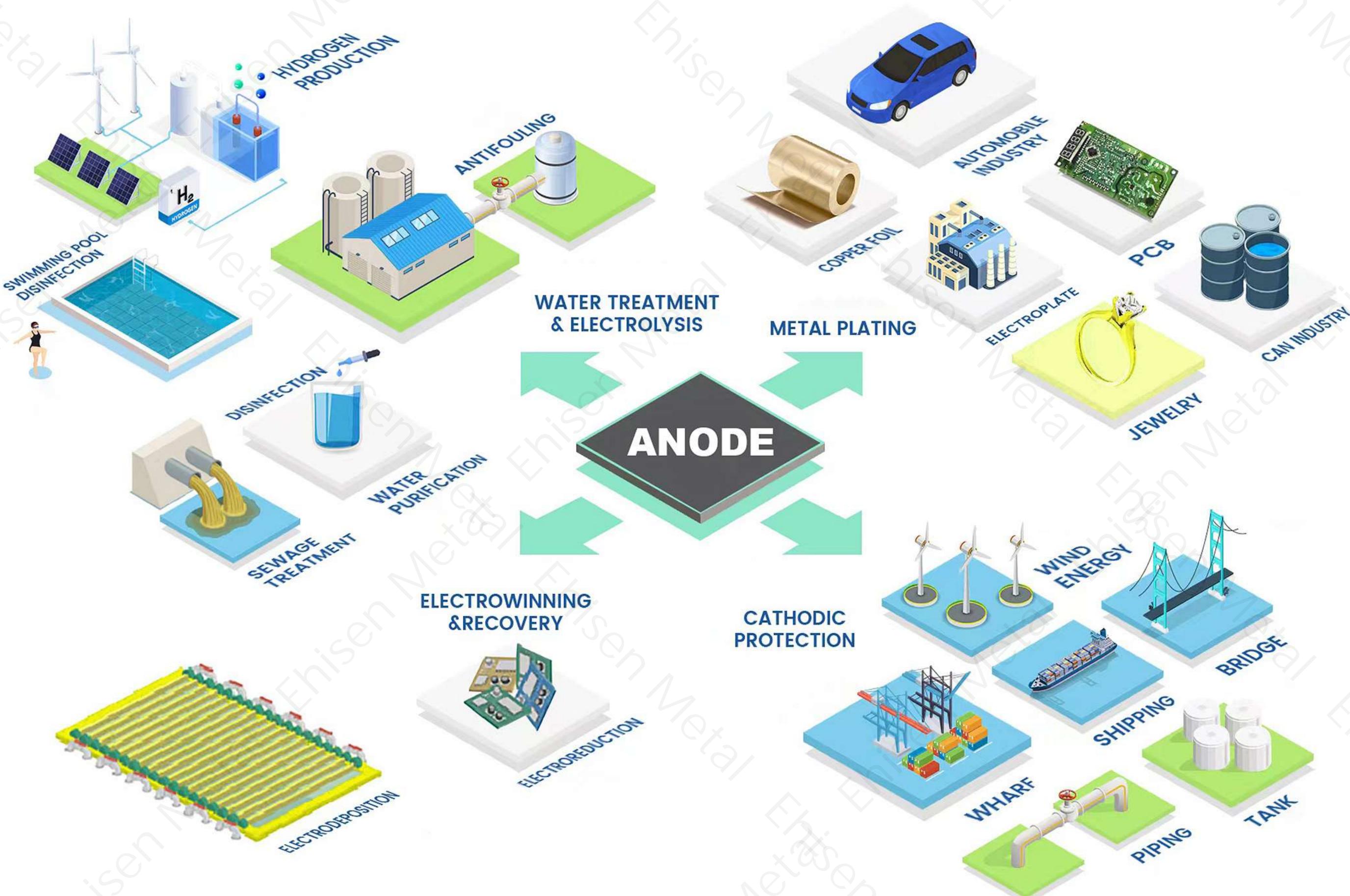
20230

Shaanxi Ehisen Technology Co., Ltd. is established to promote our excellent products to customers all over the world. And with years of deep experience in the industry, we will provide you with the highest quality project solutions and simple and efficient procurement experience.

oble Metal Electrode Product

The precious metal oxides are cured on the metal surface by a fluid extension technique where the metal anode will be. Such electrodes have a very wide range of applications, also known as DSA anodes. Compared with similar anodes, the superior performance of titanium anodes has the following points:

Dimensional stability, Low working voltage, low power Long life, corrosion resistance cell voltage stability consumption High current density, small No deformation, high current effi-Insoluble, non-polluting over-potential, high catalytic perciency formance Titanium substrates are used Low over-potential, lower cell Customized size, high precision repeatedly





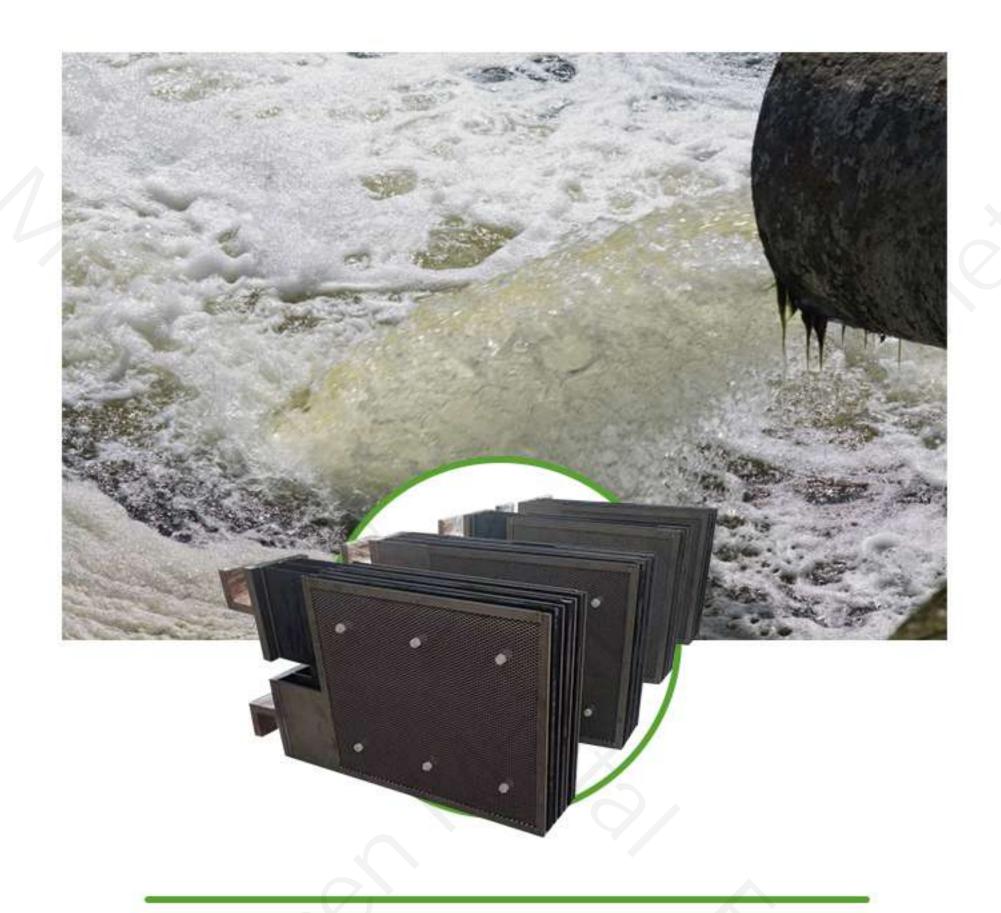
TITANIUM ANODES FOR CATHO-DIC PROTECTION

Cathodic protection is an important technical means to prevent metal corrosion, including sacrificial anode method and impressed current method. At present, our company can design and develop MMO anodes of different shapes and specifications according to the needs of the use environment, such as wire, tubular, rod, strip, sheet, mesh and network-tube discrete anodes, so as to adapt to different application and construction requirements.



TITANIUM ANODES FOR WATER TREATMENT

Electrocatalytic oxidation is a chemical reaction that utilizes an electrolytic process. It is widely used in water treatment projects because of its strong oxidation and reduction capabilities, less consumption of chemicals, strong adaptability, and easy automation control. Our company can test the customer's water samples and design a complete water treatment plan according to the situation. According to your drawings, we can also customize and produce anode products for various precious metal mixtures for water treatment.



Electrolytic wastewater treatment



Sodium hypochlorite electrode



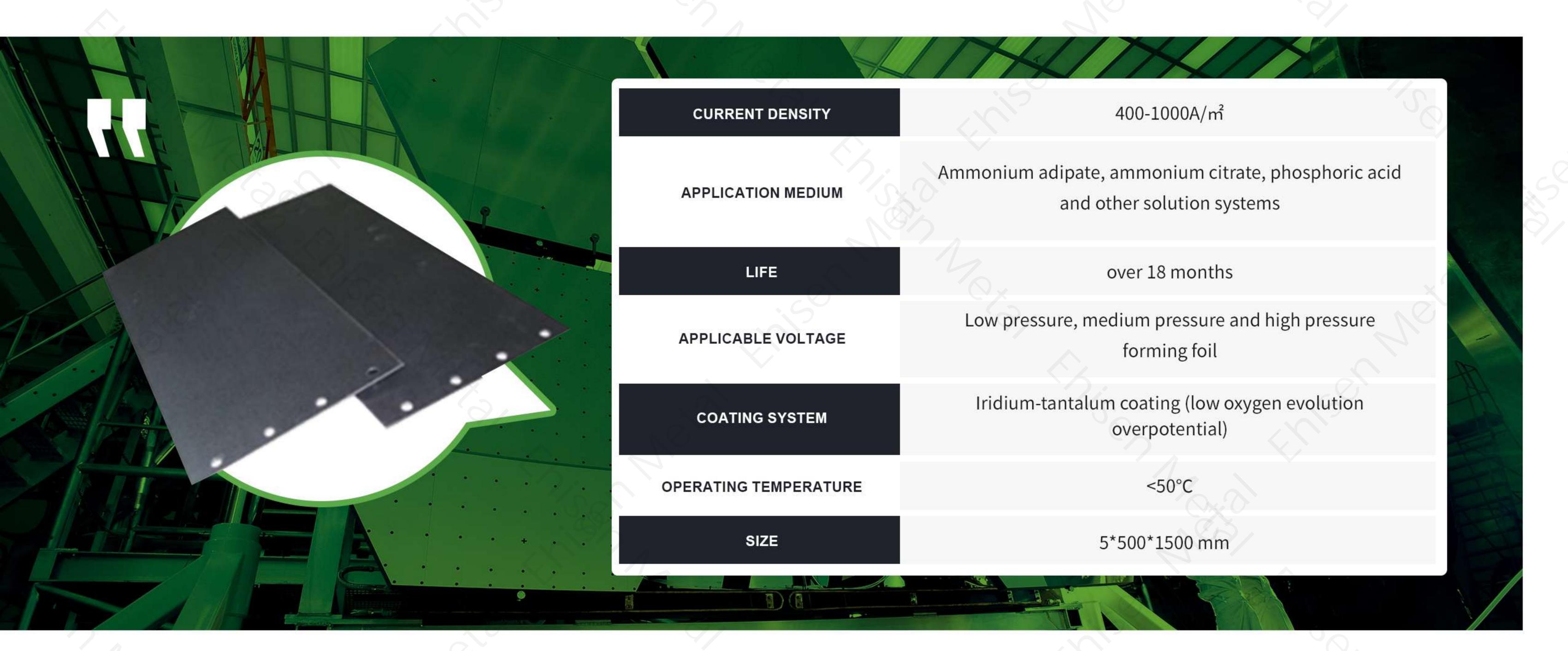
Seawater desalination electrode



TITANIUM ANODE FOR METALLIC

With the development of science and technology, the degree of automation is increasing, which promotes the development of the electronics industry, and the requirements for copper foil and aluminum foil are also increasing. With DSA titanium anodes, the high quality requirements of this type of product can be met. Our company has many years of experience in the production of titanium anodes, and the products have been verified by customers with good feedback.

Titanium anode for aluminum foil formation



Titanium anode for electrolytic copper foil

	SUBSTRATE	Gr1 titanium plate
	TYPE OF COATING	Iridium oxide, iridium-tantalum mixed oxide coating
9	TYPE	One-piece, backed with titanium bolt slats (thickness 5mm or 6mm), arched or other embedded anode plate types
	CURRENT DENSITY	6000A/m²
	SERVICE LIFE	6M-1Y, 1-3Y, 3-5Y
	OTHERS	Can be customized according to drawings
9.		









PLATINUM TITANIUM ANODE

Main reaction: hydrogen evolution reaction and oxygen evolution

Electroplating: anode oxygen evolution reaction, cathode metal deposition;

Water treatment: acidic water and alkaline water, for disinfection, anode hydrogen evolution with chlorine gas precipitation, the same effect as the ruthenium-based sodium hypochlorite generator; Drinking water: hydrogen evolution reaction, hydrogen-rich water or alkaline water.

	BASE MATERIAL	Pure titanium Gr1, Porous titanium, Titanium felt, etc.
	OPERATING CURRENT RANGE	<15000A/m²
	OPERATING TEMPERATURE	<85°C
	COATED METAL	99.99% Pt
	PLATINUM THICKNESS	0.1-15μm
	PRODUCT SHAPE	Mesh, plate, tube, rod, wire, etc
	ADVANTAGE	High stability, firm coating, long service life, high oxygen evolution overpotential, low hydrogen evolution overpotential











Featured products



TITANIUM ANODE FOR PCB PLATING

Hole metallization and electroplating technologies are commonly used in PCB manufacturing to solve the problem of interlayer connection or conduction. Insoluble anodes have excellent performance in terms of saving additive consumption, improving through-hole penetration ability, improving copper plating uniformity, increasing service life, improving current efficiency, reducing cost, and being environmentally friendly.

APPLICATION FIELD	WORKING CONDITION SYSTEM	TITANIUM ANODE MATERIAL TYPE
	PCB horizontal reverse pulse copper plating (copper sulfate iron-containing system)	Dedicated according to the titanium anode
PCB PLATING	PCB gold plating (cyanide system)	Platinum coating titanium anode
	PCB vertical continuous copper plating (copper sulfate system)	Dedicated Iridium coating titanium anode
ETCHING SOLUTION	Alkaline etchant	Dedicated Iridium coating titanium anode, multi-element alloy coating titanium anode
COPPER EXTRACTION	Acid etchant	Dedicated ruthenium coating titanium anode
	Micro etchant	Dedicated Iridium coating titanium anode

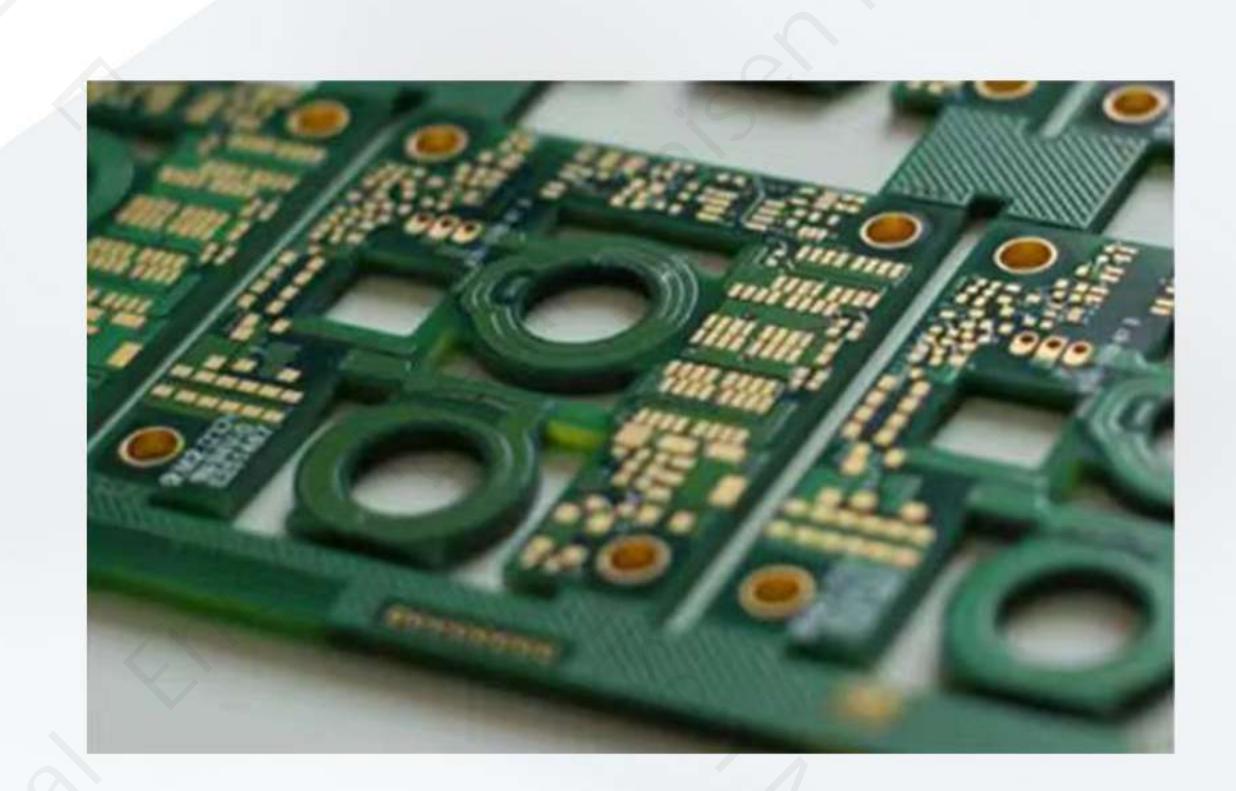


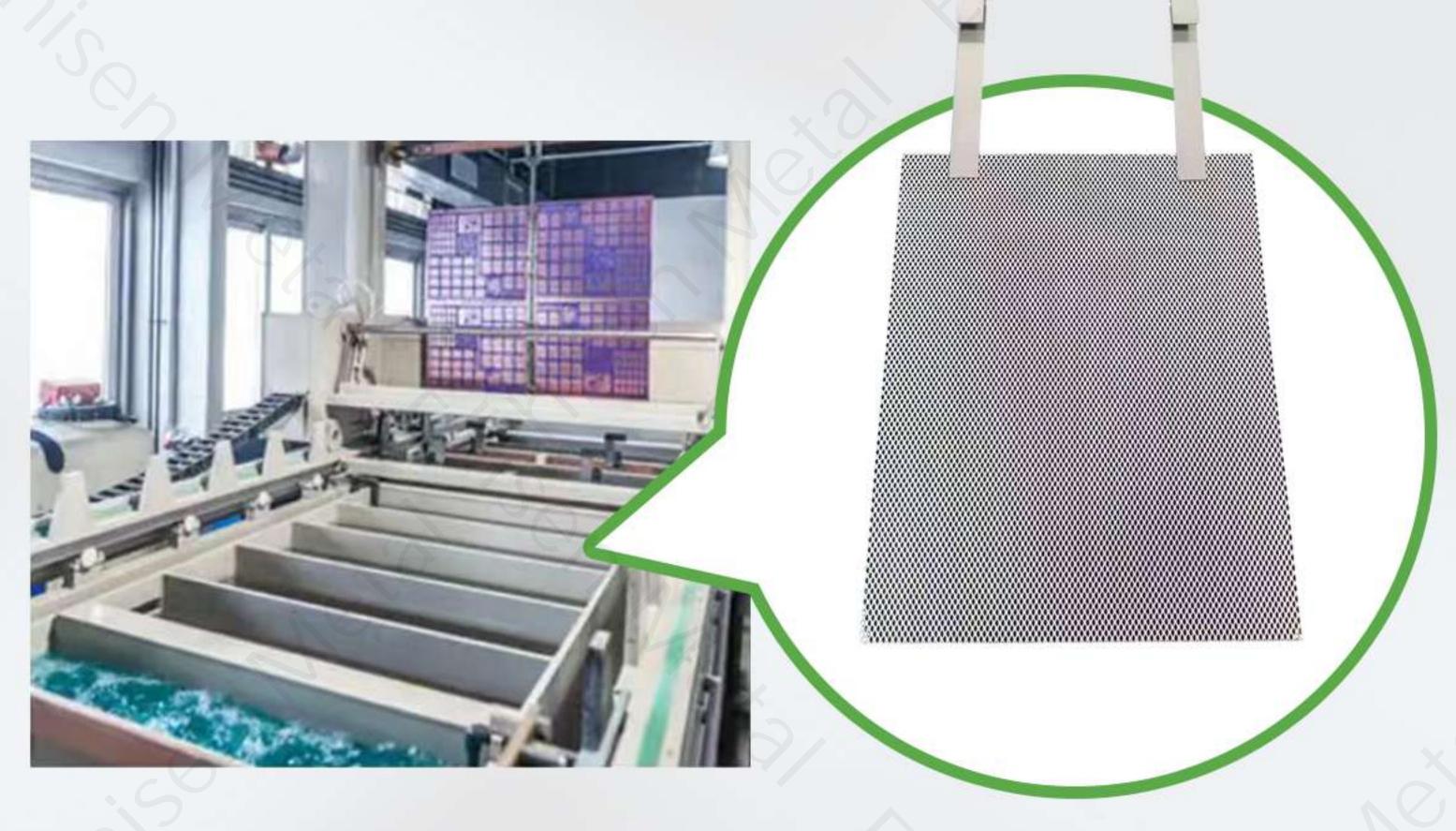
• PCB RPP Copper Plating





PCB Gold plating

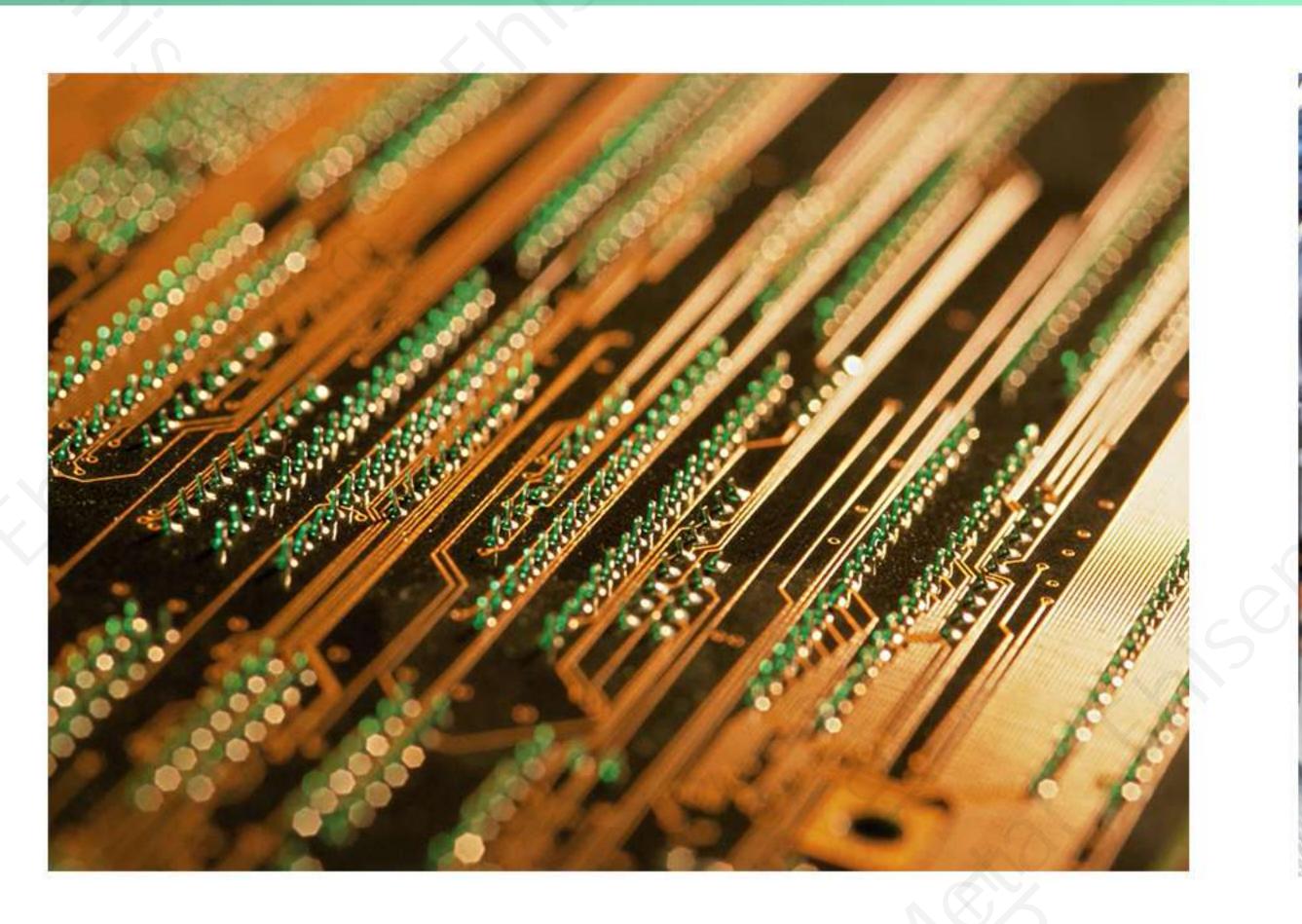




Semiconductor plating Ag, Au, Pd



APPLICATION EHISEN METAL MATERIAL





TITANIUM ANODE FOR GENERAL METAL PLATING



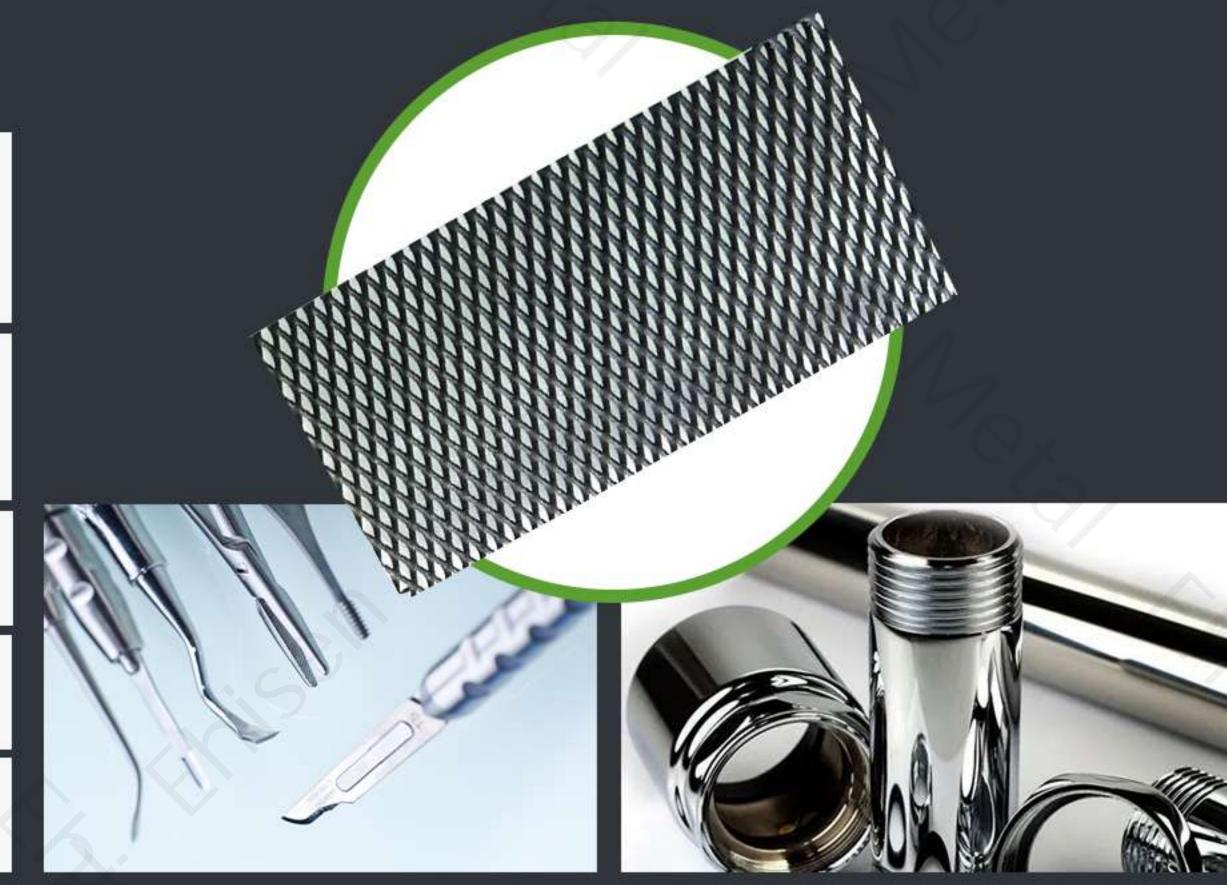
• Electrophoretic coating

The mixed metal oxide (MMO) coating on titanium anodes is characterized by its lightweight construction and flexible geometry, ensuring easy installation and rapid conversion on the electrocoating line. Unlike stainless steel, the titanium substrate does not dissolve during operation, eliminating the possibility of iron contamination and ensuring a cleaner paint bath for lighter colors. Additionally, fewer sludge deposits accumulate in the anode basket, providing maximum corrosion protection. Furthermore, the insoluble anode structure can be refurbished, extending the service life of the anode.

• Typical metal plating

In the field of electroplating, the required metal plating is dissolved in the electrolyte, and the metal substrate to be plated serves as the negative electrode, while the anode serves as the positive electrode. The chemical reaction that occurs simultaneously with electroplating in the electroplating bath is the precipitation of oxygen on the surface of the anode. Titanium anodes play a crucial role as the main or auxiliary anode in electroplating. During the electroplating process, they facilitate the conduction of electric current or, in the low current density region, help to increase the current distribution to enhance the deposition rate of the metal and ensure the uniformity of the plating layer on the product.

PLATING SOLUTION	Composite metal salt system, such as nickel sulfate, nickel chloride, copper sulfate, etc.	
pH VALUE	≤1~11	
CURRENT DENSITY	≤1~5A/dm²	
OPERATING TEMPERATURE	≤75°C	
ADVANTAGE	Customized size, high coating uniformity	



TITANIUM ANODE FOR HYDROG-EN PRODUCTION BY ELECTROL-YSIS OF WATER

Electrolysis of water, a process that involves passing direct current through water to produce hydrogen and oxygen, is the only industrial method for producing hydrogen from water. The electrolysis cell consists of four basic elements: an anode, a cathode, an electrolyte, and a membrane. The electrode substrate material is typically Ti, which is treated with corrosion-resistant surface to withstand the corrosive conditions of hydrogen and oxygen evolution. The coating materials mainly include precious metals/oxides like Pt, Ir, and Ru, as well as binary, ternary alloys/mixed oxides based on them. In essence, electrolysis of water is an eco-friendly and promising approach for hydrogen production, which can contribute to the development of clean energy.

Pure titanium Gr1 (low hydrogen and oxygen)

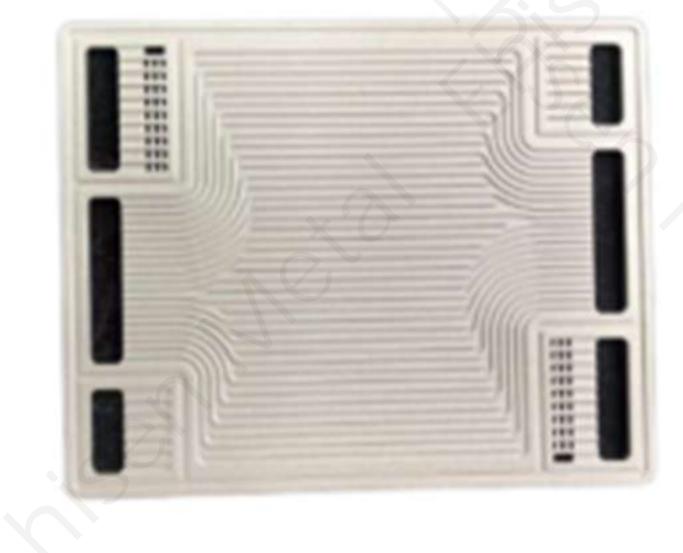
Mesh, plate, porous titanium plate, titanium felt, bipolar plate, etc.

COATING TYPE

Platinum-plated, ruthenium-iridium-plated

PLATING THICKNESS & SIZE

Customized according to customer requirements







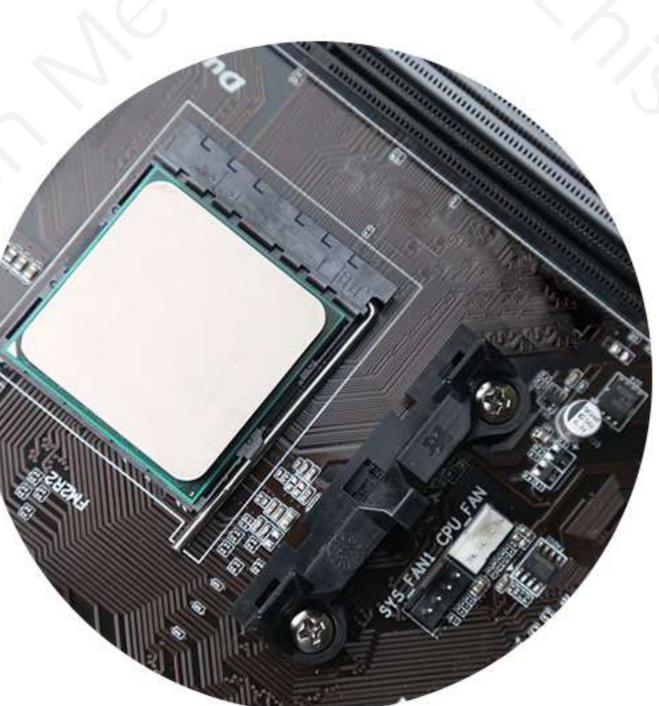


APPLICATION

Petrochemical Electronics industry Float glass production Metallurgical industry

Clean Energy











• PARTNER COMPANY























